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(54) Title: ALTERNATING CROSSED ALIGNMENT OBJECT DETECTION

(57) Abstract: Systems and methods are disclosed that perform occupancy detection. Photoelectric sensors, such as through sensors (E, R), are arranged in an angled cross pattern, such that light beams (108) of the through sensors (E, R) cover a substantial portion of the seating surface of a seat (200A, 200B, 400). Upon interruption of a light beam (108) making up the angled cross pattern, an object is detected in the seat (200A, 200B, 400). The through sensors (E, R) may be held in a narrow armrest (106, 202) of a seat (200A, 200B, 400) by a bracket (300, 300') attached to the seat frame. Further, through sensors (E, R) for neighboring seats (200A, 200B, 400) may also be held by the bracket (300, 300').



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